CONCLUSIONS: Based on a willingness to pay threshold of 500,000 SEK per QALY, somatropin (Norditropin®) is a cost-effective treatment for GHD children.

PDB24

A COST-EFFECTIVENESS ANALYSIS OF IRBESARTAN IN THE TREATMENT OF HYPERTENSIVE PATIENTS WITH DIABETIC RENAL DISEASE

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OBJECTIVES: To project the cumulative incidence of end-stage renal disease (ESRD), life expectancy (LE) and costs of treating hypertensive patients suffering from diabetic renal disease with either irbesartan treatment or standard hypertension treatment in South Korea. **METHODS:** A Markov model that simulated progression from microalbuminuria to nephropathy, doubling of serum creatinine, ESRD and all-cause mortality in hypertensive patients with diabetic renal diseases was adapted to South Korea. Three strategies were compared: 1) early use of irbesartan (ie, start treatment in subjects with microalbuminuria); versus 2) late use of irbesartan (ie, as from overt nephropathy); or 3) standard hypertension care (with comparable blood pressure control). Cumulative incidence of ESRD, LE and costs were projected for a hypothetical cohort of 1000 subjects. Treatment-specific progression and mortality probabilities were derived from published trials: IRMA-2 (in microalbuminuria) and IDNT (in overt nephropathy). Medical management and cost data per state as well as ESRD outcomes data were obtained from local sources. A flexible time horizon up to 25 years and third party payer perspective were used. Future LE and costs were discounted at 5% yearly. **RESULTS:** When compared to standard blood pressure control, early use of irbesartan was projected to reduce the cumulative incidence of ESRD from 23.9% to 5.5%, save KW 9,383,748 (US$8,988), and add 0.39 life years per treated patient. Late use of irbesartan produced higher net monetary benefit than control but was dominated by early use. The superiority of early use of irbesartan over standard care was robust for most variables, except for the time horizon. Break-even occurred after 12 years. **CONCLUSIONS:** Early use of irbesartan in hypertensive patients with diabetic renal diseases was projected to reduce the incidence of ESRD, extend life and reduce costs; treating patients with irbesartan at a later stage is still beneficial, but to a lesser extent.

PDB68

LONG-TERM COST-EFFECTIVENESS OF INSULIN DETEMIR COMPARED TO NEUTRAL PROTAMINE HAGEDORN INSULIN IN PATIENTS WITH TYPE 1 DIABETES USING A BASAL–BOLUS REGIMEN IN SWEDEN

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OBJECTIVES: The aim of this analysis was to evaluate the long-term clinical and economic outcomes associated with insulin detemir and Neutral Protamine Hagedorn (NPH) insulin in combination with mealtime insulin aspart in patients with type 1 diabetes in Sweden, based on data from a recently published 2-year, multi-national, open-label, randomized, controlled trial (RCT). **METHODS:** Long-term projections of the trial results were based on a published and validated computer model (CORE Diabetes Model). In the trial, insulin detemir was associated with significant improvements in glycemic control after 24 months (HbA1c 7.36% versus 7.58%, mean difference –0.22%, P = 0.022) and major hypoglycemic events (69% risk reduction, P = 0.001) versus NPH. Patients treated with detemir gained less weight (1.7 versus 2.7 kg, P = 0.024). Based on these findings, the model was used to estimate life-expectancy, quality-adjusted life expectancy and both direct medical costs and indirect costs (human capital approach). Future costs and clinical benefits were discounted at 3% per annum. **RESULTS:** Basal-bolus therapy with insulin detemir was projected to improve life expectancy by approximately 0.14 years (15.02 ± 0.19 versus 14.88 ± 0.18 years) and quality-adjusted life expectancy by 0.53 QALYs versus NPH (8.35 ± 0.11 versus 7.82 ± 0.10 QALYs). Improvements in QALYs were driven by avoided or delayed diabetes-related complications and fewer insulin side effects. Direct medical costs over patient lifetimes were approximately SEK 26,144 higher in the insulin detemir arm (SEK 995,025 ± 19,580 versus 968,881 ± 19,769), leading to an incremental cost-effectiveness ratio of SEK 49,757 per QALY gained. Capturing indirect costs associated with lost productivity led to insulin detemir being cost saving, by approximately SEK 106,257, compared to NPH (SEK 1,964,884 ± 45,147 versus 2,071,142 ± 42,548). **CONCLUSIONS:** The findings of this analysis suggest that, compared to NPH, insulin detemir is likely to be highly cost-effective from a healthcare payer perspective and dominant from a societal perspective in patients with type 1 diabetes in Sweden.

PDB25

COST EFFECTIVENESS ANALYSIS OF HUMAN PREMIX INSULIN REGIMENS COMPARED WITH A PREMIX ANALOGUE INSULIN IN THE PRIVATE HEALTH CARE SECTOR IN SOUTH AFRICA

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OBJECTIVES: The aim of the analysis was to estimate the cost-effectiveness of human insulin treatment (current standard care) in patients with type 2 diabetes compared with biphasic insulin aspart (BIAsp) in those treated with insulin +/– OADs, from the perspective of third party payers in the South African private health care sector. **METHODS:** Clinical outcomes and baseline characteristics were taken from an observational study of 208 patients. A baseline mean HbA1c of 10.1% was recorded in patient whose average age was 52.8 years. The cost-effectiveness ratio was estimated as the incremental cost per life-year and quality-adjusted life-year gained of BIAsp treatment. Research was conducted to collect cost data in type 2 diabetics: resource utilisation, treatment costs, complication costs at year 1 and subsequent years were investigated using insurance data. Life-years gained were based on a 30-year follow-up using a published and validated Markov diabetes outcomes model, adjusted for South African risks and non-specific mortality. **RESULTS:** In the base-case analysis the BIAsp group had better clinical outcomes and lower lifetime costs. The estimated discounted gain in life-years of biphasic insulin aspart was 0.25 years, and 0.39 years with utility adjustment. The incremental cost per life-year gained and cost per-QALY were dominant. Total costs were 7% lower in the BIAsp group; treatment cost associated with BIAsp was 39% higher; cost savings were greatest in patients experiencing cardiovascular, renal or major hypoglycaemic complications. The acceptability curve showed a 99.8% probability that of biphasic insulin aspart is cost effective in the base case scenario at the WHO's suggested threshold of three times GDP per capita. HbA1c effects were the most sensitive variable to final outcomes.